DOCUMENT RESUME

ED 186 553 UD 020 552

AUTHOR Hicks, John S.
TITLE An Evaluation of Three Federally Funded Programs: 1: 5075-98720--Impact Aid-Diagnostic-Prescriptive Math Program, 2: 5075-91622--P.S. 152 & P.S. 269 Reading Module, 3: 5075-91623--Optional Assignment Reading Module. 1978-1979 School Year, Final Report.
INSTITUTION Community School District 22, Brooklyn, N.Y.
PUB DATE Aug 79
NOTE 21p.: Not available in paper copy due to light print.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Academic Achievement: Diagnostic Teaching: Elementary Education: *Federal Programs: Individualized Instruction: Junior High Schools: Program Descriptions: Program Effectiveness: Program Evaluation: *Reading Programs: *Remedial Mathematics: *Remedial Reading: *Resource Room Programs: *Underachievement
IDENTIFIERS *Impact Aid: New York (Brooklyn)

ABSTRACT

The Federally funded programs discussed in this report were designed to help students with significant problems in either reading or mathematics achievement in the regular classrooms of District 22 in Brooklyn, New York. Both the math and reading programs operated on a "pullout" basis, utilizng a diagnostic teaching approach. The two programs differed primarily in terms of scope and evaluation design. The remedial reading project covered a total of twelve elementary, intermediate and junior high schools and served 1,253 children, while the diagnostic math program served only 432 children in seven schools. In the area of evaluation design, the reading program, which lasted one year, focused on pre and post mean group test scores, while the five month long math program focused on specific objectives for each child. The statistical evidence of success is positive for both projects. This success can be attributed to the combined "pull out," in-class, and resource teacher/consultant approach, to the monthly staff training sessions, and to the skills of teaching and administrative personnel. Both programs should be extended, though slight modifications of goals and objectives and student monitoring procedures, as well as a strengthening of the mathematics program, would make them even more effective.
(Author/GC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

APR 2 9 1980

ED186553

COMMUNITY SCHOOL DISTRICT 22

NEW YORK CITY

1978-1979 SCHOOL YEAR

An Evaluation of Three Federally Funded Programs:

1 - 5075 - 98720 - Impact Aid - Diagnostic-Prescriptive Math Program

2 - 5075 - 91622 - P.S. 152 & P.S. 269 Reading Module

3 - 5075 - 91623 - Optional Assignment Reading Module

BEST COPY AVAILABLE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
R. Edmonds
NY City Bd of Ed
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

FINAL REPORT

PREPARED BY: JOHN S. HICKS, ED.D
CONSULTANT

AUGUST, 1979

UD020552

Official Copy of this Evaluation, Approved as submitted by the Community School Board Chairman and/or the Community Superintendent, District 22, on August 31, 1979.

Ralph G. Brande

RALPH G. BRANDE, SUPERINTENDENT

AN EVALUATION OF THREE FEDERALLY FUNDED PROGRAMS:

TABLE OF CONTENTS

		Page
Part 1.	General Description of the Programs.	1
Part 2.	Data on Impact-Aid-Diagnostic-Prescriptive Math Program - (5075 - 98720).	3
Part 3.	Data on P.S. 152 & P.S. 269 Reading Module, and Data on Optional Assignment Reading Module (5075 - 91622 and 5075 - 91623)	10
Part 4.	Summary, Conclusions, and Recommendations.	15

Part 1. General Description of the Programs.

A. Introduction

These federally funded projects were designed to impact on students who were showing significant problems in either reading or mathematics achievement in the regular classroom programs of District 22 in Brooklyn. Different selection criteria were used in each program. In the case of the reading programs, students must have scored in the lowest 30 percent of the normal population on the Metropolitan Achievement test in the "Reading Comprehensive" sub-test. In the case of mathematics, students must have scored at least one and one half years below norms on the Stanford Diagnostic Mathematics test. Children who exhibited behavior which would allow them to be served as a part of special education programs were not included in these projects.

This evaluation consultant chose to combine the reports on these projects. The math program was operating in seven school sites and each of those sites also had a reading component in the building. The reading program also operated in additional school buildings. Basically, both the math and reading programs operated on a "pull-out" basis. That is, selected children who met federal guidelines were taken out of certain regular classes for either small group or individualized remedial instruction. Usually, the remedial instruction was scheduled for one period a day for either four or five days.

In both the math and the reading program the teachers worked with at least fifty different children during every week. Teachers usually had five periods of instruction each day with an average of ten students in each group. At the beginning of each program an effort was made to diagnose specific problem areas for each child in both math and reading. An individual folder was kept for each child with a diagnostic pre-test used as the basis for

organizing the remedial lessons. Children were usually grouped either by areas of needed remediation, or by similar levels of functioning.

In both the math and reading programs the teachers had access to certain instructional aids in the form of teaching machines, equipment, and a vast array of commercially prepared materials. In a number of cases the "host" school made available material for instruction, as well as providing guidance from curriculum coordinators who were familiar with the on-going reading or math programs. Consequently, the remedial staff was aware of diagnostic information from several sources, and was also aware of the regular reading and math instructional approach which was being used in the school. Efforts were made by the remedial teacher to integrate his/her program for each child with the regular classroom reading or math teacher's program.

The central district office provided, as part of this funded program, several important contributions to the project. In both the math and the reading programs the district office provided instructional materials, commercial as well as teacher made. Supervision of the projects was provided by a member of the district office staff who was involved in the day to day implementation of the projects in each building. In addition to the field supervision of the projects, the district staff coordinator supervised a monthly training session for the teachers in both projects. These training sessions focused on a variety of important areas such as the diagnosis of learning problems, presentation of new approaches to instruction, consultative help from specialists in the field of remedial reading and math, and "how-to-do-it" workshops on teaching materials.

While it can be seen that many similarities between the two programs existed, several important differences should be noted. The remedial reading

project was much larger in scope, including seven separate Elementary school building programs, two Intermediate schools, and three Junior High schools. It employed fifteen teachers, seventeen educational assistants, and two family assistants. The project proposal called for instruction of 1253 children in the remedial reading program. The diagnostic math program was much smaller. It funded only seven teachers, no educational assistants and no family assistants. The math program was located in two elementary schools, two intermediate schools and three junior high schools. The project proposal called for instruction of 432 children in the diagnostic math program.

The second major difference in the programs was the evaluation design. The reading program, which was a year long program, focused the evaluation on the improvement of "reading comprehension" scores on the Metropolitan Achievement Test. Pre-and-post mean group test scores were compared after being changed to Normal Curve Equivalent scores. The diagnostic math program, however, was funded only from February through June. The evaluation design focused on specific objectives for each child, and the project was considered successful depending on whether children reached specific curricular objectives. Subsequent sections of this report will deal with these differences in more detail.

Part 2. Data on Impact Aid - Diagnostic-Prescriptive Math Programs.

A. Introduction

The project proposal called for the implementation of this project in two elementary schools, two intermediate schools, and three junior high schools. From fifty-five(55) to seventy(70) children were cited in the proposal in each school as participants in the project. One teacher was

assigned to each school for five days per week. All children were seen at least four and usually five times per week. The program was implemented in February of 1979, and ran through to the end of school in June 1979.

Table 1 presents the data in regard to a) proposed student totals, b) actual student participants, and c) students for which both pre-and-post test data was available.

Table 1 - Data on Project Participants

School	a - Proposed Totals	b - Actual Participants	c - Pre & Post Data
P.S. 152	60	60	56
P.S. 269	70	70	65
I.S. 14	64	67	42
I.S. 78	64	62	50
JHS 234	70	57	51
JHS 240	49	52	46
JHS 278	55	55	55
TOTALS	432	423	365
% of Proposal Data	---	(97.9%)	(84.5%)

This evaluator would accept the data in Table 1 as reasonable evidence that the district staff made a very concerted effort to meet the proposal goals. This project focused on disadvantaged populations. It is not uncommon for large numbers of these children to move in and out of the schools. Of the actual number of participants (423) the project collected data on 85% of the children. Most of the children who did not have both pre-and-post data were either discharged, moved, ill or seemed to present real problems in collecting post data. The staff seemed to make every effort to keep the

children involved in the project, and to provide the data which was requested. Furthermore, it was evident that the children being served did meet the criteria in the original proposal.

B. Response to Previous Evaluator's Findings and Recommendations.

Last year's evaluator, Susan Sardy, Ph.D., presented five recommendations in regard to improving the project as a part of her report on the 1977-78 year's activities. Given below are both her recommendations and the District's responses, as per page 36 of the project proposal.

1977-78 Evaluator's Recommendations	District Responses
1. Program be continued and expanded.	1. This is dependent on Impact Aid allocation.
2. Expand program to full year.	2. This is also dependent upon allocation of more funds.
3. Increase the number of schools participating.	3. The number of schools participating is based upon fund allocations.
4. "Let's Find a Way" should be introduced into all participating schools.	4. Teachers were trained in workshops to incorporate this into their programs.
5. Useful to schedule lessons similar to Madison Math problems in all Math Laboratories.	5. Teachers will be trained in workshops to incorporate this into their programs.

It would be the judgment of this evaluator that the District responded reasonably to the evaluation report of the prior year. Indeed while it would be advantageous to expand such programs, the District is obviously restricted to the level and extent of services which are possible under the funding provided. In the case of the fourth and fifth recommendation it was apparent that the District was implementing these recommendations through the monthly training sessions. These training sessions allowed for the introduction of many

new ideas and creative approaches to teachers in this project.

C - Objectives and Evaluation Design.

The Evaluation Design called for demonstrated mastery of objectives as defined by the Stanford Diagnostic Math Test (SDMT). Specifically, as cited on page 37 of the project proposal:

> "75% of the targeted population will demonstrate the mastery of 66% of the objectives taught, as specified in the SED classification index."

General mathematics achievement was specified in the SED classification index, as observed on pre-and-post test application of the Stanford Diagnostic Math Test. The objectives taught each child were prescriptions related to the pre-test information. Each child's objectives were defined according to this diagnostic information which came directly from the areas of math achievement tested by the standardized test.

The Stanford Diagnostic Math Test is broken down into three major subtests and concept/skill domains. These three subtests are, Number System and Numeration, Computation Skills, and Applications. Each of these subtests are broken down from three to eight specific objectives in that area. The manuals for each level of the test give "progress indicators" for each of the specific objectives, allowing a teacher to judge when a student has sufficiently mastered a specific objective. At that point the child's instruction should move on to the next higher objective within that subtest.

The evaluation design called for an assessment of whether a student mastered 66% of the objectives taught. Consequently, the teachers were asked to specify the three weakest areas of functioning, according to the SDMT pre-test information. Thus the weakest area of functioning in number systems,

computation, and applications because the three target objectives for each teacher to work on with each child. A student was considered as successful if, on the post-test, he or she scored above the "progress indicators" on two of the three specified objectives. Data for each of the participants was then inspected to see if 75% of the targeted population were successful on at least two of the three specified objectives.

Table 2 presents the data on the percent of students who successfully achieved two out of three objectives as measured by the post-test scores. This information is organized by the schools in the project.

Table 2 - Percent of Pupils Who Succeeded in Reaching Progress Indicators for the Specified Objectives, by School

School	N	0/3 - No Objective Mastered	1/3 - One Objective Mastered	2&/3-Two or More Objectives Mastered
P.S. 152	56	30%	36%	34%
P.S. 269	65	31%	34%	35%
I.S. 14	42	62%	31%	7%
I.S. 78	50	18%	36%	46%
JHS 234	51	22%	29%	49%
JHS 240	46	22%	33%	45%
JHS 278	55	36%	33%	31%
TOTALS	365	31%	33%	36%

From the above table it can be seen that none of the schools met the evaluation objective of succeeding 75% of the time in two or more objectives. For the total project only 36% of the pupils were successful in two out of three

targeted objectives. If the data for all children is analyzed for all children who have mastered at least one of the three designated objectives, then the data approaches 70% success. While these results will be discussed in greater detail later, this evaluator was not disappointed in these results, primarily because the project was implemented late in the year. Three months of instruction basically does not allow for more progress than that which Table 2 indicates.

This data was also analyzed according to grade levels in the project. It was hoped that perhaps some further trend would become evident if the data were broken down on grade levels. Table 3 presents this data.

Table 3 - Percent of Pupils Who Succeeded in Reaching Progress Indicators for the Specified Objectives, by Grades

Grade	N	0/3 - No Objective Mastered	1/3 - One Objective Mastered	2&/3-Two or More Objectives Mastered
4	21	24%	48%	28%
5	49	29%	33%	38%
6	76	37%	32%	31%
7	85	24%	34%	42%
8	65	43%	25%	32%
9	69	26%	38%	36%
TOTAL	365	31%	33%	36%

The evidence from Table 3 suggests that there were no real differences across grades. That is, none of the grades approached 75% success unless the data is analyzed by defining success as achieving mastery in any of the three targeted objectives. In that case the fourth, seventh, and ninth grades seem successful. Again, it would appear very difficult to require success in two out of three

cases for a three month instructional project.

Because the evaluator was concerned about the fairness of a seemingly stringent evaluation criteria for such a short project, a further analysis was run comparing pre-and-post test total scores. These scores were available in terms of percentile scores on the SDMT for both pre-and-post testing.

Simple "T" tests were run to see if significant growth was recorded. Table 4 presents the data which was broken down by school.

Table 4 - Pre-and-Post Percentile Means, with T-Tests, by School

School	N	Pre-Test % Mean	Post-Test % Mean	Value of "T"	Significance Level of T
P.S. 152	56	8.4%	27.9%	8.705	.01
P.S. 269	65	9.5%	28.8%	7.894	.01
I.S. 14	42	12.1%	19.9%	2.816	.01
I.S. 78	50	13.1%	23.9%	4.481	.01
JHS 234	51	14.1%	29.6%	5.079	.01
JHS 240	46	9.8%	27.6%	6.564	.01
JHS 278	55	9.3%	18.6%	4.445	.01

Table 4 suggests that significant progress was made, when measured by pre- and post-test percentile scores on the SDMT. The data was also broken down by grade level. The detailed results will not be presented other than to say that significant progress was found on each and every grade level. Table 4 is being presented and discussed, simply because it is the kind of evaluation required in the reading project. Had that evaluation design been applied to the math data the project would have been considered "successful".

The data was also broken down by subtest on the SDMT. The three subtests are Number Systems, Computations, and Applications. The evidence clearly suggested that the greatest amount of progress occurred in the area of Computations. Second in progress was the area of Number Systems, and the least progress was made in the area of Applications. Further discussion of the meaning of the data, and the implications and recommendations for change are found in the final section of this report.

Part 3. Data on P.S. 152 and P.S. 269 Reading Module and Data on Optional Assignment Reading Module.

A. Introduction

The two modules called for several different types of services to children who present problems in reading achievement. Two Title I elementary schools, P.S. 152 and P.S. 269, along with its annex P.S. 269A, were the focus of concerted efforts to upgrade the reading performance in these schools. The project proposal called for services to 404 children at P.S. 152, and 410 children at P.S. 269. Children in all grades from first through sixth grades were included in this program. A combination of reading teachers, laboratory teachers, resource teachers, educational assistants, and two family assistants provided a range of approaches in the remediation project.

In some cases children were pulled out of regular instruction to go to reading laboratories. In other cases, reading teachers entered the classroom and instructed small groups of children within the regular classroom. Resource teachers also worked directly in the regular classroom giving demonstration lessons as well as serving as a consultative staff member to the regular reading teachers. Educational assistants worked directly with

children under the direction of reading teachers. The module also supported two family assistants who worked with the families of children who were presenting special home related problems.

This independent evaluator was impressed with the comprehensive approach to reading remediation which this project represented. Rather than attempting to focus on one "favorite" approach, these two schools provided an array of approaches and services. It became obvious to the evaluator during the field visits that this comprehensive approach was an excellent model which provided a variety of services to a variety of children who themselves presented a variety of problems.

The other part of the remedial reading program was the optional assignment module. This module was very different from the Title I schools module. The optional assignment module provided four educational assistants, one each at P.S. 52, 193, 206 and 255. A reading teacher funded by Title I supervised these four educational assistants. The educational assistants pulled children out of regular classroom instruction for small group remediation.

The module also provided services to I.S. 14 and I.S. 78. Junior High Schools 234, 240, and 278 were also provided with reading teachers and educational assistants. The assignment of staff was complemented by the resources available under the P.S.E.N. program. In most cases teachers and assistants worked out of reading laboratories. These reading laboratories were well supplied with a variety of remedial reading materials as well as commercially prepared machines and equipment. The typical assignment of staff was on a ratio of ten students per group, five groups per day, four to five days per week. A total of 439 children were targeted in this module.

It would be this evaluators judgment that the district conscientiously implemented the various aspects of the project as outlined in the proposal.

The staff members were clearly well trained and well prepared professionals on a variety of levels. The program also provided adequate supervision on a day to day basis. A very important part to the project was the monthly training sessions which focused on helping the teachers try new approaches in their day to day remediation of reading problems.

The project proposals for the P.S. 152 and 269 module called for servicing 404 and 410 children respectively. Pre and post data for 286 children was available from P.S. 152, representing 70.8% of the totals projected in the proposal. Pre and post data for 306 children was available from P.S. 269, representing 74.6% of the totals projected in the proposal. The project proposal for the optional assignment reading module projected a total of 439 children, while pre and post data for 270 children or 61.5% was available for data analysis. For both modules, this seems to be low, and for a year long project a loss of thirty percent is higher than would be expected. Perhaps the nature of the Title I school populations influence retention rates, but the reading data was well below the 85% data collected in the diagnostic math program.

B. Objectives and Evaluation Design.

In both of these remedial reading modules, "reading comprehension" was the stated objective. Students, at all levels were expected to increase their ability in this area from the pre-test to the post-test. Testing was done using the Metropolitan Achievement Test. The project used a diagnostic-prescriptive approach. The pre-test results were used to identify areas of needed instruction for each child. The teachers then focused the remediation efforts for each child on the areas of weakness. The evaluation design called for a test of pre and post mean scores, in normal curve equivalent units.

The design defined success as achievement beyond expectation, at the .05 level of confidence, in reading comprehension.

To analyze the data, pre-and-post test results were changed to normal curve equivalents according to tables provided by the test manual. Pre and post comparisons were then done according to certain groups of students, grades, or schools. Table 5 presents the data for the first module, P.S. 152 and P.S. 269.

Table 5 - Pre-and-Post-Test Results, Reading Comprehension, P.S. 152 & 269

School	Grade	N	Pre Mean Percentile	Post Mean Percentile	T-Score	Level of Significance
P.S. 152	1	40	0.0%	16.8%	N.A.	---
	2	58	8.2%	17.5%	2.445	.05
	3	79	12.3%	26.2%	5.397	.01
	4	53	7.6%	16.2%	4.047	.01
	5	36	14.1%	24.8%	2.612	.05
	6	35	4.3%	25.0%	4.099	.01
P.S. 269	3	12	6.1%	33.4%	5.691	.01
	4	49	7.9%	23.3%	6.607	.01
	5	58	6.4%	16.2%	7.026	.01
	6	49	10.8%	25.7%	7.350	.01
P.S. 269-A	2	70	7.6%	40.2%	12.200	.01
	3	67	10.0%	34.2%	10.252	.01

Table 5 above clearly indicates that the program was successful. Significant differences were found at all grade levels tested. The group of 40 children at P.S. 152 in the first grade really had no pre-test scores to

compare in any meaningful way, consequently, no analysis was done. It can be seen that the average pre-test score was at about the tenth percentile. The average post-test score was at about the twenty-fifth percentile.

The second module, the optional assignment reading program called for the same data analysis. Table 6 presents the data on reading comprehension scores for the schools covered in this second part of the remedial reading project. The small sample sizes did not suggest breaking the data down by grade level.

Table 6 - Pre-and-Post Test Results, Reading Comprehension, Optional Assignment Reading Module.

School	N	Pre Mean Percentile	Post Mean Percentile	T-Score	Level of Significance
P.S. 52	21	13.8%	37.0%	3.156	.01
P.S. 193	21	13.9%	32.6%	3.728	.01
P.S. 206	19	19.9%	31.6%	2.216	.05
P.S. 255	23	7.8%	20.2%	2.718	.05
I.S. 14	30	11.1%	19.2%	3.155	.01
I.S. 78	37	15.1%	25.8%	3.852	.01
JHS 234	61	13.0%	27.0%	6.383	.01
JHS 240	18	12.8%	15.8%	1.129	N.S.
JHS 278	40	20.8%	25.9%	1.116	N.S.

Table 6 reports significant growth in reading comprehension in seven out of nine instances. The program was clearly successful in nearly all settings. It is hard to discern specific reasons for the failure of the two groups of students at J.H.S. 240 and J.H.S 278 to produce significant progress. In general, the average pre-test level of reading comprehension was approximately

equal to the fourteenth percentile. The average post-test level of reading comprehension was raised to approximately the twenty-fifth percentile.

Part 4. Summary, Conclusions and Recommendations.

A. Summary and Conclusions

Both of these projects focused on efforts to remediate weakness in either reading or math achievement. The projects were designed for elementary, intermediate, and junior high students who showed severe reading or math deficits. In mathematics, the criterion for selection was a standardized test score at least one and one half years below the expected level. In reading, the criterion for selection was a standardized test score in the lowest 30 percent of a grade level.

The math program was basically a "pull-out", small group remediation effort. For the major part the reading program also was a small group remediation effort on a "pull-out" basis. The reading program in the two Title I target elementary schools also had reading teachers going into the regular classroom for small group work. That part of the reading program in the two Title I elementary schools also included resource teachers, whose function included teacher consultation and demonstration lessons. Both programs had built in components of teacher training on a monthly basis to help the teachers introduce new methods and techniques into the project.

The statistical evidence in both the reading and the math programs is very positive. The math program produced significant progress in math achievement on a pre and post basis, while it did not produce the mastery of specific objectives which the design had called for. In the math program 69% of the students mastered one or more objectives. This was a three/four month program

and this evaluator would interpret this as significant progress. Thirty-six percent of the students mastered two out of three objectives.

In the reading modules, there was significant progress in reading comprehension, who measured in normal curve equivalent scores, in both Title I elementary schools. In those schools, P.S. 152 and P.S. 269, a very comprehensive set of approaches was implemented. It is impossible to determine the relative effectiveness of the regular pull-out approach, the in-class approach and the resource teacher/consultant approach. Perhaps the success of the program is best attributed to the fact that all three approaches were being implemented.

It was the feeling of this evaluator that the district personnel made every effort to implement the project. Both the letter and the spirit of the project were evident in the visitations made during the evaluation. The personnel who had been selected to implement the project were professional, and the teachers, for the great majority, were experienced, skillful persons. In addition, the monthly staff training program seemed well designed and skillfully implemented.

B. Recommendations for Improvement

While this evaluator considered the reading and math programs to be successful there were certain aspects of the modules which might function better if certain adjustments could be made. This is not to suggest that the overall value of the project is being denegrated. The following recommendations are made in the spirit of trying to improve already superior programs.

1 - A recommendation is made for the continuation of all three modules in future years. Both of the reading modules presented significant growth in terms of pre-and-post test results.

While the math module did not present overwhelming results, it would be the judgment of this evaluator that, for a three or four month project, it was reasonably successful.

2 - Obviously, it would appear important for the math program to be extended, if possible, to a full year program.

3 - The evaluator was impressed with the comprehensive approach which was used in P.S. 152 and P.S. 269. The range of services, including in-class instruction, pull-out programs, and teacher consultation presented a model which this evaluator wishes to endorse. Wherever possible, this model should be adopted.

4 - The diagnostic - prescriptive approach in both the reading and the math modules appeared excellent. The Stanford Diagnostic Math Test appeared to be highly effective in providing specific goals and objectives for the teachers. Its continued use is highly recommended.

5 - The Metropolitan Achievement Test appears to have the capacity to be an effective diagnostic - prescriptive tool. However, some of its value seemed lost in the evaluation design which specified only one score, reading comprehension, as the target of the statistical analysis. It would be recommended that the evaluation design in future years specify more than reading comprehension for a full year program. Success in two out of three objectives, as was the model in the math module, would be recommended.

6 - Conversely, if funding limits the implementation of the math module to less than half a year, the evaluation design should

either specify mastery of one out of three objectives, or should specify general growth in mathematics achievement on a pre and post basis.

7 - Greater efforts should be made to monitor the role of loss of students in the reading program. While it is obvious that over a year more students will leave than during a shorter program, the loss of data in the reading program seemed excessive. Perhaps initially, teachers should see more students less frequently, and then halfway through the year add instructional periods for the remaining students. This would give more substantial populations from which to draw conclusions about the value of the program.

8 - The recommendation must be put forth that the math program should be the focus of attention in an effort to somewhat equalize the reading and math facilities. While this evaluator understands the difficulty of such a task, it seems inherently unfair to visit very well furnished reading labs in most of the schools while the math programs seemed to work out of spare rooms, with comparatively little materials. Only one school I.S. 14 in the math module had a math lab equal to the facilities of most of the reading labs which were visited. A recommendation is made to try to establish a math lab in each school in the projects, with the level of provisions more equal to those of the typical reading lab.